Innovative Finance





Federal Highway Administration
U.S. Department of Transportation

Message From the Federal Highway Administrator

I am pleased to present the Federal Highway Administration's *Innovative Finance Brochure*, containing brief descriptions of Federal financing techniques and programs that can help you bridge the investment gap between available resources and transportation infrastructure needs.

Our commitment is to continue working with the transportation community, both public and private, to expand project financing opportunities to help meet the Nation's transportation investment needs.

I believe you will find this a useful brochure. For more information about these innovative finance techniques, please consult the Federal Highway Administration's *Innovative Finance Primer*.

Mary E. Peters
Federal Highway Administrator

This *Innovative Finance Brochure* describes techniques for funding transportation facilities. Through this brochure and a companion *Innovative Finance Primer*, the Federal Highway Administration seeks to highlight innovative project finance and encourage new approaches for narrowing the gap between capital needs and financial resources.

Alameda Corridor

An innovative $400 million Federal loan for the Alameda Corridor Project filled a key financing gap for this $2.4 billion multimodal project, and provided a model for Federal assistance that led to enactment of the TIFIA Federal credit program.

Photo Credit: Alameda Corridor Transportation Authority



Table of Contents

Paving the Way for Innovation

In 1994, the Federal Highway Administration (FHWA) launched a major initiative to identify barriers to highway infrastructure investment and develop strategies to overcome them. Under the experimental "Test and Evaluation" program, designated as TE-045, FHWA sought proposals from states for alternatives to traditional financing approaches. The program produced an array of innovative financing techniques that increased the financial flexibility available to states. These new techniques move the transportation financing process from a single strategy of grant reimbursement to a diversified approach that provides new options for both the public and private sectors.

This brochure, which complements a detailed *Innovative Finance Primer*, highlights several of the techniques and strategies that have been advanced by the FHWA in partnership with the states and other transportation stakeholders. It also provides a list of resources, including publications, web sites, and expert technical assistance, that can help states and other project sponsors make use of these new techniques.

What is Innovative Finance?

The term "innovative finance" for transportation describes techniques that supplement traditional highway financing methods. While many of these techniques may be well tested in other areas, their application to transportation is innovative.

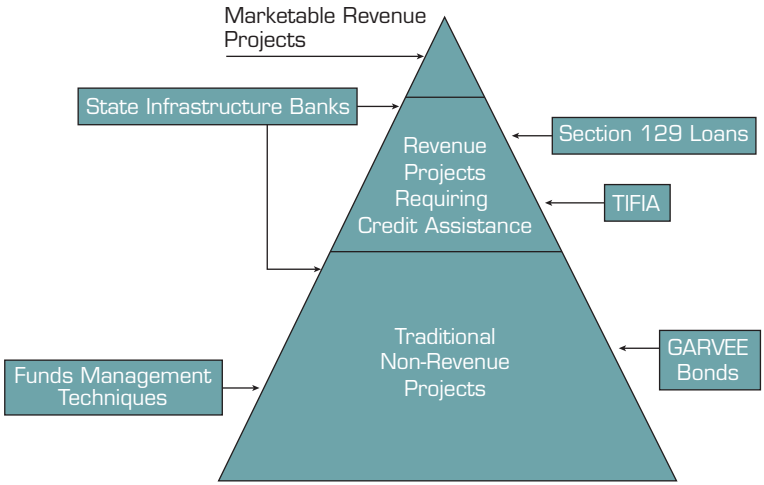
Historically, FHWA has financed highways through grants that generally fund up to 80 percent of project costs. Since this approach alone has not met the nation's transportation investment needs, U.S. DOT's innovative finance initiatives are needed to supplement the traditional grant program.

The primary objectives of innovative finance are to:

- Maximize the ability of states and other project sponsors to leverage Federal capital for needed investment in the nation's transportation system;
- More effectively utilize existing funds;
- Move projects into construction more quickly than under traditional financing mechanisms; and
- Make possible major transportation investments that might not otherwise receive financing.

The Innovative Finance Toolbox

Since launching its innovative finance initiative with TE-045, FHWA has advanced many techniques to supplement traditional transportation funding programs. Many of the innovations proposed under the TE-045 initiative were enacted into law under the National Highway System Designation Act (NHS Act) of 1995. The Transportation Equity Act for the 21st Century (TEA-21), enacted in 1998, made further strides in broadening project sponsors' options for financing Federally-assisted highway projects. As states and private sector sponsors look to innovative finance options, it is important to recognize the potential synergy in combining techniques to advance a project.



The base of the pyramid represents the majority of highway projects that continue to rely primarily on grant-based funding, but may benefit from measures that enhance flexibility and maximize resources. Various Federal funds management techniques, such as advance construction, tapered match, and grant-supported debt through Grant Anticipation Revenue Vehicles or GARVEE bonds, can help move these projects to construction more quickly.

The mid-section of the pyramid represents those projects that can be partially financed with project-related revenues, but may also require some form of public credit assistance to be financially viable. State Infrastructure Banks can assist state, regional, and local projects through low-interest loans, loan guarantees, and other credit enhancements. State loans of

Federal grant funds known as Section 129 loans represent another credit assistance technique. The Transportation Infrastructure Finance and Innovation Act (TIFIA) program provides credit assistance to large-scale projects of regional or national significance that might otherwise be delayed or not constructed at all because of risk, complexity, or cost.

The peak of the pyramid reflects the very small number of projects able to secure private capital financing without any governmental assistance. These self-supporting projects are typically developed on high-volume corridors where revenues from user fees are sufficient to cover capital and operating costs.

These techniques are discussed in the following sections.

New Mexico State Road 44

A GARVEE bond approach has enabled the expansion of New Mexico 44 in a significantly reduced time frame compared to traditional funding approaches.

Photo Credit: Mesa, PDC

Advance Construction and Partial Conversion of Advance Construction

Advance construction (AC) and partial conversion of advance construction (PCAC) are cash flow management tools that allow states to begin projects with their own funds and later convert these projects to Federal assistance.

How does it work?

AC allows a state to construct Federal-aid projects in advance of the apportionment and obligation of authorized Federal-aid funds. Under normal circumstances, states can "convert" advance-constructed projects to Federal-aid at any time sufficient Federal-aid funds and obligation authority are available. States may either convert and obligate the entire eligible amount, based on funding availability or, using PCAC, may obligate funds in stages.

PCAC allows states to convert, obligate, and receive reimbursement for a portion of the Federal share of project costs, removing the need to wait until the full amount of obligation authority is available. PCAC is used in conjunction with GARVEE bonds when Federal funds are obligated for debt service payments over a period of time.

What are the benefits?

AC can help facilitate construction of large projects, while maintaining obligation authority for smaller projects. PCAC eliminates a major single year "draw down" of Federal funds, and obligation of funds for the entire Federal share of a project, thereby making Federal-aid funds available to support a greater number of projects. This partial conversion technique can enable completion of a project earlier than under the conventional approach, avoiding construction cost inflation, and bringing the benefits of a completed facility to the public at an earlier date.

How is it used?

States have been using AC for a wide range of projects to expedite project construction, begin projects sooner, and improve cash flow. The Connecticut DOT advanced a $55.4 million major bridge project through partial conversion of a $35.7 million component. Connecticut spread its Federal-aid obligations for the project over two years, enabling it to redirect some funds to other smaller bridge projects.

Tapered Match

Tapered match enables the project sponsor to vary the non-Federal share of a Federal-aid project during development and construction so long as the total Federal contribution toward the project does not exceed the Federal-aid limit.

How does it work?

Under the tapered match approach, the non-Federal matching ratio is imposed on projects rather than individual payments. Therefore, Federal reimbursements of state expenditures can be as high as 100 percent in the early phases of a project provided that, by the time the project is complete, the overall Federal contribution does not exceed the Federal-aid limit established when the project was authorized.

To ensure effective management of Federal funds, FHWA limits the use of tapered match to situations that result in expediting project completion, reducing project costs, or leveraging additional non-Federal funds.

What are the benefits?

Tapered match may be most useful in cases where the project sponsor of a Federal-aid project lacks sufficient funds to match Federal grants at the start of the project, but expects to accumulate the match in time for project completion. Tapering may also be beneficial when a project sponsor needs to overcome a near-term gap in state matching funds, thereby avoiding delays in getting the project underway. Tapering also allows a sponsor to advance a project before fully securing capital market financing.

How is it used?

This technique may be used to facilitate a project when a new local transportation tax has been enacted, but revenue collections have yet to accumulate sufficient matching funds. Using tapered match, the project can move forward immediately with 100 percent Federal funds, allowing time for the tax revenues to accumulate. The locally generated revenues would be used to fund the final 20 percent share of project costs.

In Washington State, tapered match enabled the state DOT to proceed with a $35.9 million high-occupancy vehicle-lane project when state expenditure limits threatened to delay the project by more than a year. The DOT obtained Federal reimbursement of 100 percent of its project expenditures until a new budget cycle provided the spending authority for the state share.

Flexible Match

Flexible match allows a wide variety of public and private contributions to be counted toward the non-Federal match of Federal-aid projects.

How does it work?

The NHS Act and TEA-21 introduced new flexibility to the matching requirements for the Federal-aid program by allowing certain public donations of cash, land, materials, and services to satisfy the non-Federal matching requirement. These matching options include:

- The value of private and certain state and local contributions, including publicly-owned property;
- Funds from other Federal agencies may count toward the non-Federal share of recreational trails and transportation enhancement projects;
- Funds from the Federal Lands Highway Program may be applied as non-Federal match for projects within or providing access to Federal or Indian lands; and
- Funds from Federal land management agencies may be used as the match for most Federal-aid highway projects.

Also states may seek program-wide approval for Surface Transportation Program (STP) projects. The matching requirement would then apply to the program instead of individual projects.

What are the benefits?

Flexible match provisions increase a state's ability to fund its transportation programs by:

- Accelerating certain projects that receive donated resources;
- Allowing states to reallocate funds that otherwise would have been used to meet Federal-aid matching requirements; and
- Promoting public-private partnerships by providing incentives to seek private donations.

How is it used?

In Maine, flexible match was used to advance the construction of an Auburn intermodal truck/rail transfer facility. The value of the private railroad's contribution of materials, equipment, and labor was credited toward the match.

Toll Credits

States may apply toll revenues used for capital expenditures to build or improve public highway facilities as a credit toward the non-Federal share of certain transportation projects.

How does it work?

Toll credits are earned when a state, a toll authority, or a private entity funds a capital highway investment with toll revenues from existing facilities. The amount of toll revenues spent on non-Federal highway capital improvement projects earns the state an equivalent dollar amount of credits to apply to the non-Federal share of a Federal-aid project. To utilize this tool, the state must certify that its toll facilities are properly maintained and must pass an annual maintenance of effort test to earn credits. By using toll credits to substitute for the required non-Federal share on a Federal-aid project, Federal funding can effectively be increased to 100 percent.

What are the benefits?

Toll credits provide states with more flexibility in financing projects. For example, by using toll credits, 1) Federal-aid projects can be advanced when matching funds are not available, 2) state and local funds normally required for matching may then be directed to other transportation projects, or 3) project administration may be simplified when a single funding source is used. States wishing to take advantage of the toll credit provision must apply toll revenues to capital improvements and meet the maintenance of effort test that may result in an increased investment in transportation infrastructure.

How is it used?

Toll credits are being used extensively by states with toll facilities. At the end of FY 2001, 20 states had accumulated $9.2 billion in toll credits. The credits are being applied in a variety of ways, depending on the state's needs. Missouri reserves its toll credits for situations where project matching funds are unavailable in order to increase Federal funding to 100 percent of project costs. Ohio uses toll credits as a match on GARVEE projects and also shares its toll credits with local government agencies for both highway and transit projects.

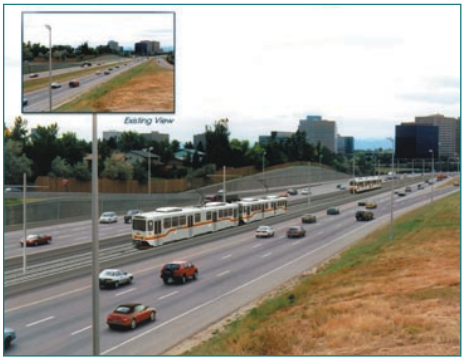
The Florida DOT has been applying toll credits on a statewide basis since 1993. Today the state is using toll credits on almost every new Federal-aid project, so that most of its Federal highway program is 100 percent Federally funded, freeing up state dollars for state-administered projects.

Grant Anticipation Revenue Vehicles (GARVEE)

GARVEEs enable states to pay debt service and other bond-related expenses with future Federal-aid highway apportionments.

How does it work?

A Grant Anticipation Revenue Vehicle or GARVEE is a debt financing instrument authorized to receive Federal reimbursement of debt service and related financing costs under Section 122 of Title 23, United States Code. GARVEEs can be issued by a state, a political subdivision of a state, or a public authority. States can receive Federal-aid reimbursements for a wide array of debt-related costs incurred in connection with an eligible debt financing instrument, such as a bond, note, certificate, mortgage, or lease. Reimbursable debt-related costs include interest payments, retirement of principal, and any other cost incidental to the sale of an eligible debt instrument.



Colorado GARVEE

Colorado sold $1 billion of GARVEEs as part of a planned $1.7 billion bond offering to help finance corridor improvements throughout the state, including Denver's I-25 Southeast Corridor project, known as T-REX.

Photo Credit: Colorado Department of Transportation

In general, projects funded with the proceeds of a GARVEE debt instrument are subject to the same requirements as other Federal-aid projects with the exception of the reimbursement process. Instead of reimbursing construction costs as they are incurred, the reimbursement of GARVEE project costs occurs when debt service is due. For a GARVEE, a state may request partial conversion of AC project(s) to coincide with debt service payments, allowing for effective use of obligation authority.

It is important to note that, in order to issue GARVEE bonds, states or the issuing entity must have the appropriate state authorizations related to debt issuance. States have the flexibility to tailor GARVEE financings to accommodate state fiscal and legal conditions.

What are the benefits?

The GARVEE financing mechanism generates up-front capital for major highway projects at tax-exempt rates and enables a state to construct a project earlier than using traditional pay-as-you-go grant resources. With projects in place sooner, costs are lower due to inflation savings and the public realizes safety and economic benefits. By paying via future Federal highway reimbursements, the cost of the facility is spread over its useful life, rather than just the construction period. GARVEEs can expand access to capital markets, as a supplement to general obligation or revenue bonds.

How is it used?

Candidates for GARVEE financing are typically large projects (or a program of projects) that have the following characteristics:

- The costs of delay outweigh the costs of financing;
- Other borrowing approaches may not be feasible or are limited in capacity;
- They do not have access to a revenue stream and other forms of repayment are not feasible; and
- The sponsors are willing to reserve a portion of future year Federal-aid highway funds to satisfy debt service requirements.

States are finding GARVEEs to be an attractive financing mechanism to bridge funding gaps and accelerate construction of major corridor projects. Ohio, the first state to leverage Federal dollars through GARVEEs, sold three GARVEE issues in the FY 1998-2001 period, totaling $190 million. The proceeds of these issues are helping to finance Spring-Sandusky corridor improvements, the new Maumee River Bridge, and the Southeast Ohio Plan.

Colorado is advancing a multi-billion dollar program of strategic statewide projects, including the multimodal Southeast Corridor project, through planned GARVEE financings expected to total $1.7 billion. In Arkansas, GARVEE bonds, expected to total $575 million, are helping to accelerate the financing of 380 miles of Interstate improvements.

Credit Assistance

Section 129 Loans

Section 129 loans allow states to use regular Federal-aid highway apportionments to fund loans to projects with dedicated revenue streams.

How does it work?

A state may directly lend apportioned Federal-aid highway funds to toll and non-toll projects. A recipient of a Section 129 loan can be a public or private entity and is selected according to each state's specific laws and process. A dedicated repayment source must be identified and a repayment pledge secured.

The Federal-aid loan may be for any amount, up to the maximum Federal share of 80 percent of the total eligible project costs. A loan can be made for any phase of a project, including engineering and right-of-way acquisition, but cannot include costs prior to loan authorization. A state can obtain immediate reimbursement for the loaned funds up to the Federal share of the project cost.

Loans must be repaid to the state, beginning five years after construction is completed and the project is open to traffic. Repayment must be completed within 30 years from the date Federal funds were authorized for the loan. States have the flexibility to negotiate interest rates and other terms of Section 129 loans. The state is required to spend the repayment funds for a project eligible under Title 23.

What are the benefits?

States can use Section 129 loans to assist public-private partnerships, by enhancing start-up financing for toll roads and other privately sponsored projects. Because loan repayments can be delayed until five years after project completion, this mechanism provides flexibility during the ramp-up period of a new toll facility.

Loans can also play an important role in improving the financial feasibility of a project by reducing the amount of debt that must be issued in the capital markets. In addition, if the Section 129 loan repayment is subordinate to debt service payments on revenue bonds, the senior bonds may be able to secure higher ratings and better investor acceptance.

How is it used?

If a project meets the test for eligibility, a loan can be made at any time. Federal-aid funds for loans may be authorized in increments through advance construction procedures, and are obligated in conjunction with each incremental authorization. The state is considered to have incurred a cost at the time the loan, or any portion of it, is made. Federal funds will be made available to the state at the time the loan is made.

The President George Bush Turnpike Project in Texas exemplifies how a Section 129 loan can play an essential role in the total financing package. This project links four freeways and the Dallas North Tollway to form the northern half of a circumferential route around the City of Dallas. Primary funding for this $940 million project included a low interest, long-term Section 129 loan and revenue bonds. This $135 million loan was critical in ensuring the affordability of the project's senior bonds. Completion of this important beltway extension will be accomplished at least a decade sooner than would have been possible under traditional pay-as-you-go-financing.

President George Bush Turnpike

A $135 million Section 129 loan was instrumental in providing Texas with the bonding capacity needed to pay for the $940 million President George Bush Turnpike Project and greatly enhanced the creditworthiness of $446 million in revenue bonds issued for the first four segments of the project.

Photo Credit: North Texas Tollway Authority

State Infrastructure Banks

State Infrastructure Banks (SIBs) are revolving infrastructure investment funds for surface transportation that are established and administered by states.

How does it work?

A SIB functions as a revolving fund that, much like a bank, can offer loans and other credit products to public and private sponsors of Title 23 highway construction projects or Title 49 transit capital projects. Federally capitalized SIBs were first authorized under the provisions of the NHS Act. The pilot program was originally available to only 10 states, and was later expanded to include 38 states and Puerto Rico. TEA-21 established a new pilot program for the states of California, Florida, Missouri, and Rhode Island. The initial infusion of Federal and state matching funds was critical to the start-up of a SIB, but states have the opportunity to contribute additional state or local funds to enhance capitalization.

SIB assistance may include loans (at or below market rates), loan guarantees, standby lines of credit, letters of credit, certificates of participation, debt service reserve funds, bond insurance, and other forms of non-grant assistance. As loans are repaid, a SIB's capital is replenished and can be used to support a new cycle of projects.

Arizona SIB

Arizona's SIB has entered into 23 loan agreements valued at $373 million, helping advance highway projects throughout the state, including the Price Freeway, a critical segment in the Phoenix area regional freeway system.

Photo Credit: Arizona Department of Transportation

South Carolina SIB

South Carolina's SIB has approved financing and begun development of projects valued at nearly $3.0 billion, including the $387 million Conway Bypass to improve access to popular Myrtle Beach.

Photo Credit: South Carolina Department of Transportation

SIBs can also be structured to leverage additional resources. A "leveraged" SIB would issue bonds against its capitalization, increasing the amount of funds available for loans.

What are the benefits?

SIBs complement traditional funding techniques and serve as a useful tool to meet project financing demands, stretching both Federal and state dollars. The primary benefits of SIBs to transportation investment include:

- Flexible project financing, such as low interest loans and credit assistance that can be tailored to the individual projects;
- Accelerated completion of projects;
- Incentive for increased state and/or local investment;
- Enhanced opportunities for private investment by lowering the financial risk and creating a stronger market condition; and
- Recycling of funds to provide financing for future transportation projects.

How is it used?

While the authorizing Federal legislation establishes basic requirements and the overall operating framework for a SIB, states have customized the structure and focus of their SIB programs to meet state-specific requirements.

A variety of types of financing assistance can be offered by a SIB, with loans the most popular form of SIB assistance. As of September 30, 2001, 32 states had entered into 245 loan agreements with a dollar value of over $2.8 billion. Two states, Minnesota and South Carolina, have leveraged their SIBs through the issuance of bonds. Since its inception, the South Carolina Transportation Infrastructure Bank has approved financing and begun development of $3.0 billion in projects for eight applicants. This SIB financing mechanism is helping to condense 27 years of projects into seven years.

Florida has a very active SIB with 32 loan agreements executed through the end of FY 2001, at a value of $465 million. Because of loan demands, Florida's SIB has been augmented with a phased-in state fund appropriation of $150 million. Ohio and Arizona also have contributed additional state funds to their SIBs.

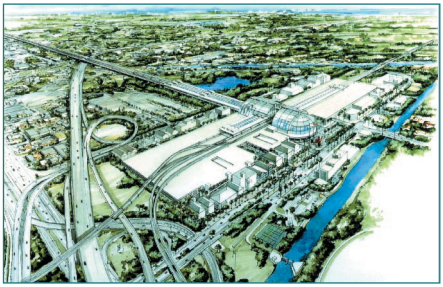
Transportation Infrastructure Finance and Innovation Act (TIFIA)

TIFIA allows U.S. DOT to provide direct credit assistance to sponsors of major transportation projects.

How does it work?

The TIFIA credit program offers three distinct types of financial assistance – direct loans, loan guarantees, and standby lines of credits. These instruments are designed to address the varying requirements of projects throughout their life cycles. The amount of Federal credit assistance may not exceed 33 percent of total eligible project costs. TIFIA project sponsors may be public or private entities, including state and local governments, special purpose authorities, transportation improvement districts, and private firms or consortia.

Any type of project eligible for Federal assistance through existing surface transportation programs (both highways and transit) is eligible for TIFIA assistance. In addition, the following types of projects are eligible: international bridges and tunnels; inter-city passenger bus and rail facilities and vehicles; and publicly-owned intermodal freight transfer facilities on or adjacent to the National Highway System.



Miami Intermodal Center

TIFIA credit assistance backed by a regional gas tax and daily rental car fees helped complete the financing for the $1.3 billion Miami Intermodal Center, designed to improve access to and within Miami International Airport, a global gateway for national and international trade and commerce.

Photo Credit: Florida Department of Transportation

TIFIA assistance involves an application process and each project must meet certain threshold criteria to apply. The project's estimated eligible costs must be at least $100 million or 50 percent of the state's annual Federal-aid highway apportionments, whichever is less, or at least $30 million for intelligent transportation systems (ITS) projects. The project must be supported in whole or part from user charges or other non-Federal dedicated funding sources and be included in the state's Transportation Plan. The project is subject to all Federal requirements.

Qualified projects are evaluated and selected based on eight criteria. Before TIFIA assistance can be committed, the project must receive an investment grade rating on its senior obligations and have a completed environmental action.

What are the benefits?

TIFIA assistance provides improved access to capital markets, flexible repayment terms, and potentially more favorable interest rates than can be found in private capital markets for similar instruments. TIFIA can help advance expensive projects that otherwise might be delayed or deferred because of size, complexity, or uncertainty over the timing of revenues.

The ability to use TIFIA to partner with the Federal government for essential and costly projects improves access to the capital markets. Large, complex projects frequently encounter market resistance as a result of investor concerns about risk, particularly in the case of subordinate and secondary sources of capital. However, with TIFIA, the government can be a flexible, patient investor by providing subordinate capital that may not be available through the capital markets on attractive terms. The flexibility provided by TIFIA can then enable the senior debt to demonstrate higher coverage margins and attain investment-grade bond ratings. By facilitating the borrower's access to the capital markets through TIFIA, major projects that might be delayed or accomplished with less efficiency can be advanced.

How is it used?

Approved TIFIA projects range in cost from a $242 million highway-rail corridor improvement project to a $3.3 billion dual span toll bridge structure. TIFIA assistance is also being provided to transit and ferry systems, as well as intermodal facilities. Four of the approved projects are toll facilities, including a new toll facility in central Texas that will span 122 miles and a new bridge in California to replace the east span of the San Francisco-Oakland Bay Bridge. For these projects, TIFIA credit assistance offers the project sponsors a way to boost debt service coverage and enhances senior obligations at an affordable cost. Also, flexible repayment terms will facilitate these toll financings, enabling a better match of loan repayments to expected revenue flows.

Because of their size, many of the approved TIFIA projects were either unfunded in the near term or had large funding gaps. For some projects, TIFIA assistance enhanced market access and reduced borrowing costs; for others, it provided an alternative to grant funding, enabling the project sponsor to conserve regular Federal funds for smaller projects that could not be supported through user charges or dedicated revenue streams.

For More Information

Additional innovative finance resources are available through these web sites:

http://www.fhwa.dot.gov/innovativefinance

TIFIA web site at *http://tifia.fhwa.dot.gov/tifia/*

National Cooperative Highway Research Program (NCHRP) web site at *http://www.innovativefinance.org*

FHWA prepares the *Innovative Finance Quarterly* newsletter, available at the FHWA innovative finance web site above and as an insert to the *AASHTO Journal*, which provides up-to-date information on innovative finance programs, legislation and rules, and best practices.

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